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Increasing host oxidative immune response as a possible new player in treatment of MDR tuberculosis cases

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ABSTRACT

Mycobacterium tuberculosis is a traditional example of bacteria that uniquely adapted to evade the host immune system and establish persistent infection. One of the major stresses encountered by *M. tuberculosis* is the host oxidative immune response. Studies on other bacteria have suggested that treatment with bactericidal antibiotics may lead to increased oxidative stress. Moreover, certain studies have shown that oxidative stress may sensitize bacteria to antibiotics. In addition, increased antioxidant capabilities of bacteria may therefore protect them from both antibiotics as well as the host immune response. In multi-drug resistant (MDR)-*M. tuberculosis* isolates, the antioxidant capability is weakened by decreased or even abolished catalase activity. In this presentation, the main focus is directed to the evidence that host oxidative immune responses could be exploited for better treatment results of MDR tuberculosis (TB) cases. Some evidences are generated from these experiences and others are based on others' experimental studies conducted on *M. tuberculosis* and other bacterial species.

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